PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Jack W. Adoline, et al.
For	:	DAMPENED COMPRESSION SPRING ROD
Serial No.	:	10/820,280
Filing Date	:	April 8, 2004
Examiner	:	Mariano O. Sy
Gr. Art Unit	:	3683
Our Docket	:	BGEE 2 00017

APPEAL BRIEF

Mail Stop Appeal Brief - Patent
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

This is an appeal from the decision of the examiner mailed October 2, 2008 finally rejecting the pending claims in the above-identified patent application. Pursuant to 37 C.F.R. 41.20(b)(2), the fee for filing the Appeal Brief is $540.00 and is submitted with this Appeal Brief. If the submitted fee is insufficient for the Appeal Brief, the Commissioner is authorized to charge any fee which may be required, or credit any overpayment, to Deposit Account No. 06-0308.

I. REAL PARTY IN INTEREST

Barnes Group Inc. is the real party in interest as assignee of the named inventors.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

The above-identified patent application presently contains claims 1-40 and 42-96. Claims 33-40, 42-48, 63-71 and 77-83 have been withdrawn, thus are not the subject of this Appeal. Claims 1 and 49 are the only pending independent claims. The examiner in the Final Office Action mailed October 2, 2008 (hereinafter "Final Office Action") indicated that none of the pending claims were in allowable form.

The examiner in the Final Office Action objected to claims 1 and 49 for including a grammatical error. The examiner in the Final Office Action rejected claims 1, 5, 10, 11, 13, 27, 29, 31, 49, 50, 57, 60 and 74-76 under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) (hereinafter "Salice") in view of Johnston (US 5,360,123) (hereinafter "Johnston") and in view of Fitzlaff (US 5,728,174) (hereinafter "Fitzlaff"). The examiner in the Final Office Action rejected claims 2, 6, 8, 12 and 72 under 35 U.S.C. 103(a) as unpatentable over Salice in view of Johnston and in view of Fitzlaff, and further in view of Johnsen (US 5,551,674) (hereinafter "Johnsen"). The examiner in the Final Office Action rejected claims 3, 73 and 84 under 35 U.S.C. 103(a) as unpatentable over Salice in view of Johnston and in view of Fitzlaff, and further in view of Geyer (US 4,148,469) (hereinafter "Geyer"). The examiner in the Final Office Action rejected claims 4, 7 and 9 under 35 U.S.C. 103(a) as unpatentable over Salice in view of Johnston and in view of Fitzlaff and in view of Johnsen, and further in view of Geyer. The examiner in the Final Office Action rejected claims 14, 17, 18, 22, 23, 51-56, 58, 59, 61, 62, 87, 90 and 93-96 under 35 U.S.C. 103(a) as unpatentable over Salice in view of Johnston and in view of Fitzlaff, and further in view

of Miura et al. (US 6,315,093) (hereinafter "Miura"). The examiner in the Final Office Action rejected claims 15, 16, 19-21, 24-26, 28, 30, 32, 88, 89, 91 and 92 under 35 U.S.C. 103(a) as unpatentable over Salice in view of Johnston and in view of Fitzlaff and in view of Johnsen, and further in view of Miura. The examiner in the Final Office Action rejected claims 85 and 86 under 35 U.S.C. 103(a) as unpatentable over Salice in view of Johnston and in view of Fitzlaff and in view of Miura, and further in view of Geyer.

Claims 1-32, 49-62, 72-76 and 84-96 are the subject of this Appeal. All of the claims on Appeal are rejected. Appellant has included the appealed claims in the Appendix of Claims.

IV. STATUS OF AMENDMENTS

Appellant filed an Amendment After Final on December 22, 2008 which amended claims 1 and 49 to correct grammatical errors in such claims that were identified by the examiner in the Final Office Action. Appellant received a communication from the examiner mailed January 15, 2009 which appears to indicate that the examiner entered such amendments. As such, Appellant submits that the formal objections to claims 1 and 49 raised in the Final Office Action are moot in view of the entry of the Amendment After Final dated December 22, 2008.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The claimed invention is directed to a novel spring system and method of controlling the rate of extension and retraction of a rod member of a spring system, which spring system includes a plurality of compression springs and a guide member that at least partially regulates fluid flow between at least two sub-chambers in the housing during reciprocation of the rod member.

Claims 2-32 and 87-92 directly or ultimately depend from independent claim 1. Claims 50-62, 72-76, 84-86 and 93-96 directly or ultimately depend from independent claim 49.

None of the claims on appeal include mean-plus-function language.

A. INDEPENDENT CLAIM 1

Independent claim 1 is directed to a spring system 20. (P. 1, lns. 5-6, P. 2, lns. 14-15, P. 16, lns. 22-26; Figs. 1-11).

The spring system 20 includes a housing 50 having an axis A, an internal chamber 52, and axially opposite bottom and top ends 56,60. (P. 16, lns. 22-27; Figs. 1, 2, 11).

The spring system 20 also includes a rod member 30 coaxial with the housing axis A. (P. 16, lns. 22-27; Figs. 1-2, 5-11).

The rod member 30 is positioned within the internal chamber 52 of the housing 50. (P. 16, lns. 22-27; Figs. 1-2, 5-11).

The rod member 30 has an inner end 34 in the housing 50 and an outer end 32 axially outwardly of the top end 60 of the housing 50. (P. 16, lns. 27-29; Figs. 1, 2, 11).

The spring system 20 includes a guide member 130 on the inner end 34 of the rod member 30. (P. 16, lns. 27-29; Figs. 1-2, 5-11).

The guide member 130 is supported on the rod member 30 for reciprocation axially of the housing 50 between retracted and extended positions. (P. 18, lns. 12-19; Figs. 1-2, 5-11).

The spring system 20 includes first and second compression springs 120, 122 that each extend between the guide member 130 and the bottom end 56 of the housing 50. (P. 16, ln. 30; P. 17, lns. 1-14, 21-28; Figs. 1-2, 11).

The spring system 20 includes top and bottom bushings 80, 70. (P. 17, lns. 5-28; Figs. 1-2, 9-11).

The top bushing 80 is positioned at least closely adjacent to the top end 60 of housing 50 and the bottom bushing 70 is positioned at least closely adjacent to the bottom end 56 of housing 50. (P. 17, lns. 5-28; Figs. 1-2, 9-11).

The top bushing 80 includes an opening 82 to enable a portion of the rod member 30 to pass therethrough and to support the rod member 30 for reciprocation axially of the housing 50 between retracted and extended positions relative thereto. (P. 17, lns. 21-28; Figs. 1-2, 5-11).

The top bushing 80 includes a sealing arrangement 90, 92 that is positioned at least closely adjacent to the bottom of the top bushing, and the sealing arrangement is designed to inhibit fluid from entering into and escaping from the internal chamber 52 between the top bushing 80 and the top end 60 of the housing 50. (P. 17, lns. 28-30; P. 18, lns. 1-4; Figs. 1-2, 5-11).

The first and second springs 120, 122 are coaxial with one another and with the axis A. (P. 22,lns. 27-29; Figs. 1, 2, 11).

At least one of the springs 120, 122 at least partially applies a force on the guide member 130 as the rod member 30 moves between fully retracted and fully extend positions. (P. 20, lns. 22-27; P. 21, lns. 13-15; Figs. 1-2, 5-11).

The guide member 130 is designed to move into engagement with or to move to a position closely adjacent to the top bushing 80 when the rod member 30 moves to the fully extended position. (Fig. 1).

At least one of the springs 120, 122 has a free length that is at least a majority length of the internal chamber 52. (P. 20, lns. 22-27; Figs. 1).

Both of the springs 120, 122 contact the bottom bushing 70 when the rod member 30 is in the fully retracted position. (P. 19, lns. 13-20; Figs. 2, 11).

The guide member 130 divides the internal chamber 52 into at least two sub-chambers 150, 152. (P. 18, lns. 27-30; Figs. 2, 5-11).

The guide member 130 includes a first passageway 140 that at least partially regulates fluid flow between the at least two sub-chambers 150, 152 during the reciprocation of the rod member 30. (P. 19, lns. 3-9; P. 20, lns. 28-30; P. 21, lns. 1-2, 21-30; P. 22, lns. 1-21; Figs. 1-11).

The first passageway 140 is spaced from an outer edge of the guide member 130. (P. 10, lns. 19-22; Figs. 1-11).

The outer end 32 of the rod member 30 includes a mounting element 110. (P. 18, lns. 5-6; Figs. 1-2, 11).

B. INDEPENDENT CLAIM 49

Independent claim 49 is directed to a method of controlling the rate of extension and retraction of a spring rod of a spring system 20. (P. 2, lns. 15-17, 25-28; Fig. 1-11).

The method includes providing a housing 50 of the spring system 20 that has a longitudinal axis A, an internal chamber 52, and axially opposite bottom and top ends, 56,60. (P. 16, lns. 22-27; Figs. 1, 2, 11).

The spring system 20 also includes a spring rod 30 coaxial with the housing axis A. (P. 16, lns. 22-27; Figs. 1-2, 5-11).

The spring rod 30 is positioned within the internal chamber 52 of the housing 50. (P. 16, lns. 22-27; Figs. 1-2, 5-11).

The spring rod 30 has an inner end 34 in the housing 50 and an outer end 32 axially outwardly of the top end 60 of the housing 50. (P. 16, lns. 27-29; Figs. 1, 2, 11).

The outer end 32 of the spring rod 30 includes a mounting element 110. (P. 18, lns. 5-6; Figs. 1-2, 11).

The spring system 20 includes a guide member 130 on the inner end 34 of the spring rod 30. (P. 16, lns. 27-29; Figs. 1-2, 5-11).

The method also includes providing a guide member 130 to support the spring rod 30 for reciprocation axially of the housing 50 between fully retracted and fully extended positions. (P. 18, lns. 12-19; Figs. 1-2, 5-11).

The guide member 130 divides the internal chamber 52 into at least two sub-chambers 150, 152. (P. 18, lns. 27-30; Figs. 2, 5-11).

The method also includes providing first and second compression springs 120, 122 that each extend between the guide member 130 and the bottom opposite end 56 of the housing 50. (P. 17, lns. 7-10; Figs. 1, 2, 11).

The first and second compression springs 120, 122 are coaxial with one another and with the axis A. (P. 22,lns. 27-29; Figs. 1, 2, 11).

At least one of the springs 120, 122 at least partially applies a force on the guide member 130 as the rod member 30 moves between fully retracted and fully extend positions. (P. 20, lns. 22-27; P. 21, lns. 13-15; Figs. 1-2, 5-11).

At least one of the springs 120, 122 has a free length that is at least a majority length of the internal chamber 52. (P. 20, lns. 22-27; Figs. 1).

Both of the springs 120, 122 are designed to contact the bottom bushing 70 when the rod member 30 is in the fully retracted position. (P. 19, lns. 13-20; Figs. 2, 11).

The method also includes providing housing 50 with top and bottom bushings 80, 70. (P. 17, lns. 5-28; Figs. 1-2, 9-11).

The top bushing 80 is positioned at least closely adjacent to the top end 60 of the housing 50 and the bottom bushing 70 is positioned at least closely adjacent to the bottom end 56 of the housing 50. (P. 17, lns. 5-28; Figs. 1-2, 9-11).

The top bushing 80 includes an opening 82 to enable a portion of the rod member 30 to pass therethrough and to support the rod member 30 for reciprocation axially of the housing 50 between retracted and extended positions relative thereto. (P. 17, lns. 21-28; Figs. 1-2, 5-11).

The top bushing 80 includes a sealing arrangement 90, 92 that is positioned at least closely adjacent the bottom of the top bushing 80, and the sealing arrangement is designed to inhibit fluid from entering into and escaping from the internal chamber 52 between the top bushing 80 and the top end 60 of the housing 50. (P. 17, lns. 28-30; P. 18, lns. 1-4; Figs. 1-2, 5-11).

The guide member 130 is designed to move into engagement with or to move to a position that is closely adjacent to the top bushing 80 when the rod member 30 moves to a fully extended position. (Fig. 1).

The method also includes at least partially controlling the rate of retraction of the spring rod 30 by selecting the spring rate of at least one of the compression springs 120, 122.

The method also includes at least partially controlling the rate of extension of the spring rod 30 by at least partially regulating a fluid flow rate between the sub-chambers 150, 152 of the housing 50. (P. 19, lns. 3-9; P. 20, lns. 28-30; P. 21, lns. 1-2, 21-30; P. 22, lns. 1-21; Figs. 1-11).

The step of at least partially controlling the rate of extension includes providing a first fluid passageway 140 through the guide member 130. (P. 19, lns. 3-9; P. 20, lns. 28-30; P. 21, lns. 1-2,

21-30; P. 22, lns. 1-21; Figs. 1-11).

The first passageway 140 is spaced from an outer edge of the guide member 130. (P. 10, lns. 19-22; Figs. 1-11).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 1, 5, 10, 11, 13, 27, 29, 31, 49, 50, 57, 60 and 74-76 stand rejected under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174).

B. Claims 2, 6, 8, 12 and 72 stand rejected under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174), and further in view of Johnsen (US 5,551,674).

C. Claims 3, 73 and 84 stand rejected under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174), and further in view of Geyer (US 4,148,469).

D. Claims 4, 7 and 9 stand rejected under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174) and in view of Johnsen (US 5,551,674), and further in view of Geyer (US 4,148,469).

E. Claims 14, 17, 18, 22, 23, 51-56, 58, 59, 61, 62, 87, 90 and 93-96 stand rejected under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174), and further in view of Miura et al. (US 6,315,093).

F. Claims 15, 16, 19-21, 24-26, 28, 30, 32, 88, 89, 91 and 92 stand rejected under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174) and in view of Johnsen (US 5,551,674), and further in view of Miura et

al. (US 6,315,093).

G. Claims 85 and 86 stand rejected under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174) and in view of Miura et al. (US 6,315,093), and further in view of Geyer (US 4,148,469).

VII. ARGUMENT

A. THE FIRST ISSUE ON APPEAL

The examiner's final rejection of claims 1, 5, 10, 11, 13, 27, 29, 31, 49, 50, 57, 60 and 74-76 under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174) is in error. The combined teachings of Salice, Johnston and Fitzlaff do not make obvious the spring system and method of controlling the rate of extension and retraction of a spring rod of a spring system as defined in the claims on Appeal.

1. Salice In View of Johnston and Fitzlaff Do Not Make Obvious The Claimed Invention

Appellant submits that the combined teachings of Salice, Johnston and Fitzlaff do not make obvious the spring system and method of controlling the rate of extension and retraction of a spring rod of a spring system that satisfies all the limitations of claims 1, 5, 10, 11, 13, 27, 29, 31, 49, 50, 57, 60 and 74-76.

To reject claims in an application under 35 U.S.C. §103, there must be a showing of an unrebutted *prima facie* case of obviousness. *In re Deuel*, 34 USPQ2d 1210, 1214 (Fed. Cir. 1995). In the absence of a proper *prima facie* case of obviousness, an inventor who complies with the other statutory requirements is entitled to a patent. *Oetiker*, 24 USPQ2d at 1444.

Section 103 specifically requires consideration of the claimed invention "as a whole." *Ruiz v. A.B. Chance Co.*, 69 USPQ2d 1686, 1690 (Fed. Cir. 2004). Inventions typically are new combinations of existing principles or features. *Envtl. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698 (Fed. Cir. 1983) (noting that "virtually all [inventions] are combinations of old elements."). As such, most, if not all, inventions arise from a combination of old elements. *In re Rouffet*, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998). Consequently, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *Id.* The "as a whole" instruction in Title 35 prevents evaluation of the invention part by part. *Ruiz*, 69 USPQ at 1690. Without this important requirement, an obviousness assessment might break an invention into its component parts (A + B + C), then find a prior art reference containing A, another containing B, and another containing C, and on that basis alone declare the invention obvious. *Id.* This form of hindsight reasoning, using the invention as a roadmap to find its prior art components, would discount the value of combining various existing features or principles in a new way to achieve a new result--often the very definition of invention. *Id.* Section 103 requires that there be some "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007).

Section 103 precludes this hindsight discounting of the value of new combinations by requiring assessment of the invention as a whole. *Ruiz*, 69 USPQ at 1690. A rejection under Section 103 also requires a showing that an artisan of ordinary skill in the art at the time of invention, confronted by the same problems as the inventor and with no knowledge of the claimed invention, would select the various elements from the prior art and combine them in the claimed manner. *Id.* Without such teachings, the claims pending in the patent application cannot be shown to be invalid

for obviousness.

A critical step in analyzing the patentability of claims pursuant to 35 U.S.C. §103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. *Dembiczak*, 50 USPQ2d at 1617. When the art in question is relatively simple, the opportunity to judge by hindsight is particularly tempting. Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher." *Id.*

Irrespective of whether express or implicit showings are relied upon to reject claims under Section 103, there must be provided particular findings related thereto. *Dembiczak*, 50 USPQ2d at 1617. Broad conclusory statements standing alone are not "evidence" of obviousness. *Id.*, *See also McElmurry v. Arkansas Power & Light Co.*, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993); *In re Sichert*, 196 USPQ 209, 217 (CCPA 1977).

As will be established below, the examiner has not properly established a *prima facie* case of obviousness against claims 1, 5, 10, 11, 13, 27, 29, 31, 49, 50, 57, 60 and 74-76 in this Appeal.

2. Patentably Distinct Independent Claims 1 and 49

Independent Claims 1 and 49 were rejected under 35 U.S.C. 103(a) as being unpatentable over Salice in view of Johnston and in view of Fitzlaff.

The examiner in the Final Office Action cited Salice as the primary prior art against independent claims 1 and 49. On pages 3-4 of the Final Office Action, the examiner referred to Figures 1-4 of Salice to argue that the spring system disclosed in Salice is similar to the spring

system and method defined in independent claims 1 and 49. The examiner asserted on page 4 of the Final Office Action that Salice discloses all of the elements defined in independent claims 1 and 49 except for a) the use of a second compression spring that is located in the housing of the spring system, and b) the inclusion of a sealing arrangement positioned at least closely adjacent to the bottom of the top bushing.

Appellant agrees that Salice does not disclose or teach these two elements of independent claims 1 and 49; however, Appellant submits that Salice also does not disclose or teach several other elements of independent claims 1 and 49. In particular, Appellant submits that Salice does not disclose or teach 1) two springs that are positioned in the housing, 2) a guide member being designed to move into engagement with or moved to a position closely adjacent to the top bushing when the rod member moves to a fully extended position, 3) two springs that contact the bottom bushing when the rod member is in the fully retracted position, 4) a top bushing that includes a sealing arrangement positioned at least closely adjacent to a bottom of the top bushing, and 5) a guide member that has a passageway which is fully spaced from the side of the guide member.

Appellant previously asserted that Salice was absent these elements of independent claims 1 and 49; however, the examiner never addressed many of these issues in any of the Office Actions. Appellant notes the examiner asserted on pages 3 and 10 of the Final Office Action that Salice discloses a guide member designed to move into engagement with or moved to a position closely adjacent to the top bushing when the rod member moves to a fully extended position. The justification for this assertion by the examiner is that the term closely adjacent is a broad term, thus Salice satisfies this limitation. A review of all of the figures of Salice reveals that the guide member does not and cannot move into engagement with the top bushing, and that the guide member is

positioned at a substantial distance from the top bushing when the rod member is moved to the fully extended position. The examiner's analysis of Salice appears to ignore the structure of the spring system illustrated in Salice.

The examiner did not address in the Final Office Action that Salice is absent teachings regarding a guide member that has a passageway which is fully spaced from the side of the guide member. The examiner asserted on page 10 of the Final Office Action that Salice discloses a guide member having a passageway which is fully spaced from the side of the guide member. This assertion by the examiner ignores passageways 41, 42 in the guide member that is illustrated in several of the figures of Salice. For instance, as illustrated in Figures 1-4 and 11-13 of Salice, the passageway on the guide member is not fully spaced from the side of the guide member.

Regarding the deficiency of Salice as to the use of two springs, the examiner relied on Figure 18 of Johnston for the teaching of a spring system that includes a second spring. The examiner stated on page 11 of the Final Office Action that Johnston is relied upon to show that two springs can be used in a spring system. Applicant acknowledges that it is known in the art that spring systems can include more than one spring. However, spring systems are designed to achieve a certain function, thus some spring systems include one spring, some spring systems include two or more springs, and some spring systems do not include any springs. The examiner, when citing Johnston in combination with Salice did not present facts and argument that established a *prima facie* case as to why one skilled in the art would be motivated to modify Salice to include two springs in the housing as defined in the claims on Appeal. Indeed, if two or more springs were useful or advantageous in the spring system of Salice, such teaching would have likely been included in Salice since the use of two or more springs in a spring system was well known in the art at the time Salice

was filed as evidenced by Johnston.

As mentioned above, Johnston discloses a very different type of spring system from the spring system disclosed in Salice. Johnston discloses a stabilizer that attempts to maintain the guide member on the rod member at generally the mid-region of the housing. Two sets of springs on both sides of the guide member accomplish this task. The rod member can only be moved to the fully extended position by the compression of springs 120, 122. As such, only when an axial force is applied to the rod member to move and retain the rod member in a fully extended position can the rod member be in a fully extended position based on the teachings of Johnston. The problem being solved by the spring system disclosed in Johnston is very different form the problem being solved by the spring system disclosed in Salice. Salice discloses a spring system that is designed to dampen the impact of furniture doors or drawers. Indeed, it is very evident from the spring design of Salice that Salice could not be used as a stabilizer as illustrated in Johnston. Furthermore, it is not evident from the teachings of Salice and Johnston that the spring system disclosed in Johnston can be used to dampen the impact of furniture doors and drawers. Consequently, the examiner has not presented facts and arguments that one skilled in the art would be motivated to take selected features from the spring system of Johnston and modify the spring system of Salice as asserted by the examiner in the Final Office Action.

It is also noteworthy that the spring system of Johnston does not disclose or teach several elements of the claims as defined in independent claims 1 and 49, namely Johnston does not disclose 1) a top bushing that includes a sealing arrangement, 2) a top bushing that includes a sealing arrangement that is positioned at least closely adjacent to a bottom of the top bushing, 3) at least one of the springs that has a free length that is at least a majority length of the internal chamber, 4) a

guide member that includes a first passageway that at least partially regulates fluid flow between the at least two sub-chambers during reciprocation of the rod member, 5) a first passageway in the guide member that is fully spaced from an outer edge of the guide member, and 6) a guide member that has a passageway that passes fully through the guide member.

Appellant notes that Figure18 of Johnston discloses the use of two springs on each side of the guide member, not two springs just positioned on one side of the guide member. Appellants also note that if the spring arrangement of Johnston was included in the spring system of Salice, the two springs positioned between the guide member and top busing would further prevent the guide member from moving into engagement with the top bushing or moving closely adjacent to the top bushing when the rod member is moved to the fully extended position. As such, the combined teachings of Salice and Johnston would further teach away from the spring system defined in independent claims 1 and 49 on appeal.

As mentioned above, the examiner acknowledged on page 4 of the Final Office that the top bushing of Salice does not include a sealing arrangement positioned at least closely adjacent to a bottom of the top bushing. The examiner relied upon the teachings in Figure 1 of Fitzlaff to overcome this deficiency of Salice. A review of Figure 1 of Fitzlaff reveals that there is no sealing arrangement that is located at least closely adjacent to a bottom of the top bushing. Fitzlaff does disclose a sealing arrangement 11. Structure 4 also appears to be a potential sealing structure, but Fitzlaff is absent any disclosure of structure 4 or the function of structure 4. As illustrated in Figure 1 of Fitzlaff, neither structure 4 or 11 is located at least closely adjacent to a bottom of the top bushing. Indeed, in both Salice and Fitzlaff, the sealing arrangement that is associated with the top bushing is spaced from the bottom of the top bushing.

It is further noteworthy that the spring system of Fitzlaff does not disclose or teach several elements of independent claims 1 and 49, namely Fitzlaff does not disclose or teach 1) a top bushing that includes a sealing arrangement positioned at least closely adjacent to a bottom of the top bushing, 2) a guide member that includes a first passageway which at least partially regulates fluid flow between the at least two sub-chambers during reciprocation of the rod member, 3) a first passageway in the guide member that is fully spaced from an outer edge of the guide member, and 4) a guide member that has a passageway that passes fully through the guide member.

Similar to the arguments set forth above regarding the motivation to combine the teachings of Salice and Johnston, Fitzlaff discloses a spring system that is designed different and is used for a different purpose from the spring systems disclosed in Salice and Johnston. Fitzlaff discloses a swing phase control arrangement for an artificial knee joint. It is noteworthy that the bottom of housing 1 of the spring system includes a vent bore 23 which clearly evidences that the spring arrangement of Fitzlaff operates in a manner that is fundamentally different from the spring system of Salice and the spring system defined in the claims on Appeal. Consequently, the examiner again did not present facts and arguments to support a prima facie case that one skilled in the art would be motivated to take selected features from the spring system of Fitzlaff or Johnston and then modify the spring system of Salice as asserted by the examiner in the Final Office Action.

In view of the above analysis, the combined teachings of Salice, Johnston and Fitzlaff do not disclose or teach a spring system that includes 1) a guide member that is designed to move into engagement with or moved to a position closely adjacent to the top bushing when the rod member moves to a fully extended position, 2) a top bushing that includes a sealing arrangement positioned at least closely adjacent to a bottom of the top bushing, and 3) a guide member that has a passageway

which is fully spaced from the side of the guide member. Furthermore, the examiner has not established that one skilled in the art would even combine or be motivated to combine selected teachings of Johnston and Fitzlaff with Salice to support a *prima facie* case of obviousness of claims 1 and 49 on Appeal. The structures of the three spring systems disclosed in Salice, Johnston and Fitzlaff are different, namely, because the purposes of the three spring systems and the problems being solved by the three spring systems are different from each other. Appellant further asserts that the structures of the three spring systems disclosed in Salice, Johnston and Fitzlaff are different from the spring system defined in claims 1 and 49 since the purposes of the three spring systems and the problems being solved by the three spring systems are different from the spring system defined in the claim on Appeal.

Appellant submits that throughout the Final Office Action, the examiner selected various prior art references that included one or more elements of the claimed invention and then summarily asserted that it would be obvious to one skilled in the art to provide these features in the spring system of Salice so as to make obvious the spring system defined in the claims. However, the examiner did not set forth any specific facts or arguments that would support the prior art combinations asserted by the examiner. Appellant acknowledges that most, if not all, of the elements of the spring system defined in the claims on appeal have been used in different types of prior art spring systems. However, the unique combination of elements used to form the spring system as defined in the claims on Appeal has clearly not been previously taught or disclosed as evidenced by the cited art of record. The examiner's assertions on pages 9-11 of the Final Office Action that simple substitution of one known element for another to obtain predictable results justifies the combination of elements from several very different spring systems is an over

simplification of the obviousness standard set forth in *KSR*. Using the examiner's obvious standard as applied to the claims on Appeal to other mechanical devices would effectively make most mechanical devices obvious since most new mechanical devices are new combinations of existing principles or features. See *Envtl. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698 (Fed. Cir. 1983) (noting that "virtually all [inventions] are combinations of old elements."). The examiner's analysis of the claims in the Final Office Action appears to be a result of the examiner reviewing the spring system defined in the claims on Appeal, then locating prior art spring systems that included one or more elements of the spring system defined in the claims on Appeal, and then summarily stating that it would be obvious to combine the located prior art patents to make obvious the spring system defined in the claims on Appeal. As such, the examiner conveniently bypassed the burden of setting forth facts and arguments, as required by *KSR* and the body of law that defines the obviousness standard under 35 U.S.C. §103, to establish that one skilled in the art would combine the various prior art spring system references as asserted by the examiner in the Final Office Action to make obvious the spring system that is defined in the claims on Appeal. Merely asserting it would be obvious to combine references or that one element in one reference is a simple substitute of another element in another reference falls well short of the examiner's required burden to establish a *prima facie* case of obviousness before a claim can be justifiably rejected by one or more prior art references.

Appellant submits that for at least the reasons set forth above, Salice in view of Johnston and in view of Fitzlaff does not make obvious all of the limitations and the combination of limitations defined in independent claims 1 and 49. Appellant requests that the obviousness rejection under 35 U.S.C. § 103(a) of independent claims 1 and 49 be withdrawn, and that independent claims 1 and

49 and all of the claims dependent therefrom be indicated as allowable over the cited art of record.

3. Patentably Distinct Dependent Claims

Dependent claims 5, 10, 11, 13, 27, 29, 31, 50, 57, 60 and 74-76 were also rejected under 35 U.S.C. 103(a) as being unpatentable over Salice in view of Johnston and in view of Fitzlaff. As set forth above in Section A(2), Salice in view of Johnston and in view of Fitzlaff does not make obvious all of the limitations and the combination of limitations of independent claims 1 and 49. For at least this reason, dependent claims 5, 10, 11, 13, 27, 29, 31, 50, 57, 60 and 74-76 are also not obvious in view of the combined teachings of Salice, Johnston and Fitzlaff. Appellant requests that the obviousness rejection under 35 U.S.C. § 103(a) of dependent claims 5, 10, 11, 13, 27, 29, 31, 50, 57, 60 and 74-76 be withdrawn, and that dependent claims 5, 10, 11, 13, 27, 29, 31, 50, 57, 60 and 74-76 be indicated as allowable over the cited art of record.

B. THE SECOND ISSUE ON APPEAL

The examiner's final rejection of dependent claims 2, 6, 8, 12 and 72 under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174), and further in view of Johnsen (US 5,551,674) is in error. Appellant submits that the combined teachings of Salice, Johnston, Fitzlaff and Johnsen do not make obvious the spring system and method of controlling the rate of extension and retraction of a spring rod of a spring system as defined in dependent claims 2, 6, 8, 12 and 72 on Appeal.

As set forth above in Section A(2), Salice in view of Johnston and in view of Fitzlaff does not make obvious all of the limitations and the combination of limitations of independent claims 1 and 49. For at least this reason, dependent claims 2, 6, 8, 12 and 72 are also not obvious in view of the cited art of record. As such, Appellant requests that the obviousness rejection under 35 U.S.C.

§ 103(a) of dependent claims 2, 6, 8, 12 and 72 be withdrawn, and that dependent claims 2, 6, 8, 12 and 72 be indicated as allowable over the cited art of record.

C. THE THIRD ISSUE ON APPEAL

The examiner's final rejection of dependent claims 3, 73 and 84 under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174), and further in view of Geyer (US 4,148,469) is in error. Appellant submits that the combined teachings of Salice, Johnston, Fitzlaff and Geyer do not make obvious the spring system and method of controlling the rate of extension and retraction of a spring rod of a spring system as defined in dependent claims 3, 73 and 84 on Appeal.

As set forth above in Section A(2), Salice in view of Johnston and in view of Fitzlaff does not make obvious all of the limitations and the combination of limitations of independent claims 1 and 49. For at least this reason, dependent claims 3, 73 and 84 are also not obvious in view of the cited art of record. As such, Appellant requests that the obviousness rejection under 35 U.S.C. § 103(a) of dependent claims 3, 73 and 84 be withdrawn, and that dependent claims 3, 73 and 84 be indicated as allowable over the cited art of record.

Appellant also submits that dependent claim 84 includes a limitation that is not taught or disclosed in Salice, Johnston, Fitzlaff and/or Geyer. Dependent claim 84 includes the limitation that the first and/or second compression springs is in a partially compressed state when the rod member is in the fully extended position. The examiner did not address this limitation in the Final Office Action. Furthermore, there is no teaching in Salice, Johnston, Fitzlaff and/or Geyer that any of the compression springs in the housing of the spring systems of such references is in a partially compressed state when the rod member is in the fully extended position. Appellant submits that

Salice, Johnston, Fitzlaff and Geyer, individually or in combination with one another does not disclose or teach the limitation of dependent claim 84. For this additional reason, dependent claim 84 is not obvious in view of the cited art of record. As such, the obviousness rejection under 35 U.S.C. § 103(a) of dependent claim 84 should be withdrawn, and dependent claim 84 should be indicated as allowable over the cited art of record.

D. THE FOURTH ISSUE ON APPEAL

The examiner's final rejection of dependent claims 4, 7 and 9 under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174) and in view of Johnsen (US 5,551,674), and further in view of Geyer (US 4,148,469) is in error. Appellant submits that the combined teachings of Salice, Johnston, Fitzlaff, Johnsen and Geyer do not make obvious the spring system as defined in dependent claims 4, 7 and 9 on Appeal.

As set forth above in Section A(2), Salice in view of Johnston and in view of Fitzlaff does not make obvious all of the limitations and the combination of limitations of independent claims 1 and 49. For at least this reason, dependent claims 4, 7 and 9 are also not obvious in view of the cited art of record. As such, Appellant requests that the obviousness rejection under 35 U.S.C. § 103(a) of dependent claims 4, 7 and 9 be withdrawn, and that dependent claims 4, 7 and 9 be indicated as allowable over the cited art of record.

E. THE FIFTH ISSUE ON APPEAL

The examiner's final rejection of dependent claims 14, 17, 18, 22, 23, 51-56, 58, 59, 61, 62, 87, 90 and 93-96 under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174), and further in view of Miura et al. (US 6,315,093) is in error. Appellant submits that the combined teachings of Salice, Johnston,

Fitzlaff and Miura do not make obvious the spring system and method of controlling the rate of extension and retraction of a spring rod of a spring system as defined in dependent claims 14, 17, 18, 22, 23, 51-56, 58, 59, 61, 62, 87, 90 and 93-96 on Appeal.

As set forth above in Section A(2), Salice in view of Johnston and in view of Fitzlaff does not make obvious all of the limitations and the combination of limitations of independent claims 1 and 49. For at least this reason, dependent claims 14, 17, 18, 22, 23, 51-56, 58, 59, 61, 62, 87, 90 and 93-96 are also not obvious in view of the cited art of record. As such, Appellant requests that the obviousness rejection under 35 U.S.C. § 103(a) of dependent claims 14, 17, 18, 22, 23, 51-56, 58, 59, 61, 62, 87, 90 and 93-96 be withdrawn, and that dependent claims 14, 17, 18, 22, 23, 51-56, 58, 59, 61, 62, 87, 90 and 93-96 be indicated as allowable over the cited art of record.

Appellant also submits that dependent claims 22, 23, 52, 55 and 56 include limitations that are not taught or disclosed in Salice, Johnston, Fitzlaff and/or Miura. The examiner acknowledged on page 7 of the Final Office Action that Salice, Johnston and Fitzlaff are absent a disclosure or teaching of a spring system that includes a) a guide member that has a passageway which includes a valve, b) a guide member that includes a second passageway which fully passes through the guide member, c) a second passageway in the guide member that is spaced from the first passageway, d) a second passageway in the guide member that is fully spaced from the outer edge of the guide member, and e) a second passageway in the guide member that has a maximum flow rate that is less than the maximum fluid rate of the first passageway.

The examiner on pages 7 and 10 of the Final Office Action relied upon Figure 5 of Miura to address the above deficiencies of Salice, Johnston and Fitzlaff. Specifically, Miura was cited for the teaching of a guide member that includes first and second passageways wherein one of the

passageways includes a one way valve.

Appellant notes that Miura discloses a gas spring system. There are no mechanical springs included in the housing of the spring system of Miura. Therefore, the gas spring system of Miura is fundamentally different from the spring systems disclosed in Salice, Johnston and Fitzlaff, and the spring system defined in the claims on Appeal. The examiner once again did not present facts and arguments to support a *prima facie* case that one skilled in the art would be motivated to take selected features from the spring system of Miura and then modify the spring system of Salice that has already been modified by Johnston and Fitzlaff as asserted by the examiner in the Final Office Action.

The spring system disclosed in Miura is absent any disclosure or teachings regarding 1) the use of mechanical springs in the housing, 2) a guide member that is designed to move into engagement with or moved to a position closely adjacent to the top bushing when the rod member moves to a fully extended position, 3) a top bushing that includes a sealing arrangement positioned at least closely adjacent to a bottom of the top bushing, 4) a second passageway in a guide member that has a maximum flow rate that is less than the maximum fluid rate of a first passageway in the guide member, and 5) the use of at least one of the springs in the housing that has a free length that is at least a majority length of the internal chamber of the housing. Indeed, Figure 5 of Miura only discloses symbols for a passageway having a valve and a passageway that does not have a valve. The disclosure of Miura does not indicate the location of the two passageways on the guide member. The examiner appears to have made an assumption that the two passageways in the guide member are spaced from the outer edge of the guide member. However, there is no support for this assumption. Also, there is no disclosure in Miura regarding the relative flow rates through the two

passageways in the guide member.

Dependent claims 22 and 55 include the limitation that the second passageway in the guide member has a maximum fluid flow rate that is less than a maximum fluid flow rate of the first passageway. Miura has no teachings regarding such a concept. The examiner asserted on pages 7 and 10 of the Final Office Action that Miura discloses a second passageway 3c that has a maximum flow rate that is less than the maximum flow rate through passageway 14. Appellant has not located any teaching in Miura for this assertion with respect to the arrangement illustrated in Figure 5. The examiner did not identify the location of such alleged teaching in Miura. Appellant submits that Salice, Johnston, Fitzlaff and Miura, individually or in combination with one another does not disclose or teach the limitation of dependent claims 22 and 55. For this additional reason, dependent claims 22 and 55 are not obvious in view of the cited art of record. As such, the obviousness rejection under 35 U.S.C. § 103(a) of dependent claims 22 and 55 should be withdrawn, and dependent claims 22 and 55 should be indicated as allowable over the cited art of record.

Dependent claims 23 and 56 include the same limitation as dependent claims 22 and 55, but dependent claims 23 and 56 ultimately depend on dependent claims 14 and 51, respectively, which require the first passageway to include a valve. As discussed above with respect to dependent claims 22 and 55, Figure 5 of Miura has no teachings regarding the concept of one passageway in the guide member having a maximum fluid flow rate that is less than a maximum fluid flow rate of another passageway. Furthermore, Miura has no teachings that the maximum flow rate of the passageway that does not include a valve is less than the maximum flow rate of a passageway that does include a valve. Appellant submits that Salice, Johnston, Fitzlaff and Miura, individually or in combination with one another does not disclose or teach the limitations of dependent claims 23 and 56. For this

additional reason, dependent claims 23 and 56 are not obvious in view of the cited art of record. As such, the obviousness rejection under 35 U.S.C. § 103(a) of dependent claims 23 and 56 should be withdrawn, and dependent claims 23 and 56 should be indicated as allowable over the cited art of record.

Dependent claim 52 includes the limitation that the one way valve substantially prevents fluid flow from the upper sub-chamber to the lower sub-chamber during extension of the spring rod. The valve arrangement disclosed in Figure 5 of Miura creates an opposite action. Appellant submits that Salice, Johnston, Fitzlaff and Miura, individually or in combination with one another do not disclose or teach the limitation of dependent claim 52. For this additional reason, dependent claim 52 is not obvious in view of the cited art of record. As such, the obviousness rejection under 35 U.S.C. § 103(a) of dependent claim 52 should be withdrawn, and dependent claim 52 should be indicated as allowable over the cited art of record.

F. THE SIXTH ISSUE ON APPEAL

The examiner's final rejection of claims 15, 16, 19-21, 24-26, 28, 30, 32, 88, 89, 91 and 92 under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174) and in view of Johnsen (US 5,551,674), and further in view of Miura et al. (US 6,315,093) is in error. Appellant submits that the combined teachings of Salice, Johnston, Fitzlaff, Johnsen and Miura do not make obvious the spring system and method of controlling the rate of extension and retraction of a spring rod of a spring system as defined in dependent claims 15, 16, 19-21, 24-26, 28, 30, 32, 88, 89, 91 and 92 on Appeal.

As set forth above in Section A(2), Salice in view of Johnston and in view of Fitzlaff does not make obvious all of the limitations and the combination of limitations of independent claims 1

and 49. For at least this reason, dependent claims 15, 16, 19-21, 24-26, 28, 30, 32, 88, 89, 91 and 92 are also not obvious in view of the cited art of record. As such, Appellant requests that the obviousness rejection under 35 U.S.C. § 103(a) of dependent claims 15, 16, 19-21, 24-26, 28, 30, 32, 88, 89, 91 and 92 be withdrawn, and that dependent claims 15, 16, 19-21, 24-26, 28, 30, 32, 88, 89, 91 and 92 be indicated as allowable over the cited art of record.

Appellant also submits that dependent claims 24-26 include limitations that are not taught or disclosed in Salice, Johnston, Fitzlaff, Johnsen and/or Miura. The examiner on pages 7, 8 and 10 of the Final Office Action relied upon Figure 5 of Miura to address the above deficiencies of Salice, Johnston, Fitzlaff and Johnsen. The examiner again relied on Miura for teachings regarding a guide member that includes first and second passageways wherein one of the passageways includes a one way valve. The examiner once again did not present facts and arguments to support a *prima facie* case that one skilled in the art would be motivated to take selected features from the spring system of Miura and modify the spring system of Salice that is already modified by Johnston, Fitzlaff and Johnsen as asserted by the examiner in the Final Office Action.

As previously discussed above, Miura is absent any disclosure or teachings regarding 1) the use of mechanical springs in the housing, 2) a guide member that is designed to move into engagement with or moved to a position closely adjacent to the top bushing when the rod member moves to a fully extended position, 3) a top bushing that includes a sealing arrangement positioned at least closely adjacent to a bottom of the top bushing, 4) a second passageway in a guide member that has a maximum flow rate that is less than the maximum fluid rate of a first passageway in the guide member, and 5) the use at least one of the spring in the housing that has a free length that is at least a majority length of the internal chamber of the housing.

Dependent claim 24 includes the limitation that the second passageway has a maximum fluid flow rate that is less than a maximum fluid flow rate of the first passageway. As previously discussed above in Section E of this Appeal Brief, Figure 5 of Miura has no teachings regarding such a concept. Appellant submits that Salice, Johnston, Fitzlaff, Johnsen and Miura, individually or in combination with one another does not disclose or teach the limitation of dependent claim 24. For this additional reason, dependent claim 24 is not obvious in view of the cited art of record. As such, the obviousness rejection under 35 U.S.C. § 103(a) of dependent claim 24 should be withdrawn, and dependent claim 24 should be indicated as allowable over the cited art of record.

Dependent claims 25 and 26 include the same limitation as dependent claim 24, but dependent claims 25 and 26 ultimately depend on dependent claims 15 and 16, respectively which require the first passageway to include a valve. As discussed above with respect to dependent claims 24, Figure 5 of Miura has no teachings regarding the concept of one passageway in the guide member having a maximum fluid flow rate that is less than a maximum fluid flow rate of another passageway. Furthermore, Figure 5 of Miura has no teachings regarding the maximum flow rate of the passageway that does not include a valve that is less than the maximum flow rate of a passageway that does include a valve. Appellant submits that Salice, Johnston, Fitzlaff, Johnsen and Miura, individually or in combination with one another do not disclose or teach the limitation of dependent claims 25 and 26. For this additional reason, dependent claims 25 and 26 are not obvious in view of the cited art of record. As such, the obviousness rejection under 35 U.S.C. § 103(a) of dependent claims 25 and 26 should be withdrawn, and dependent claims 25 and 26 should be indicated as allowable over the cited art of record.

G. THE SEVENTH ISSUE ON APPEAL

The examiner's final rejection of claims 85 and 86 under 35 U.S.C. 103(a) as unpatentable over Salice (US 6,615,450) in view of Johnston (US 5,360,123) and in view of Fitzlaff (US 5,728,174) and in view of Miura et al. (US 6,315,093), and further in view of Geyer (US 4,148,469) is in error. Appellant submits that the combined teachings of Salice, Johnston, Fitzlaff, Miura and Geyer do not make obvious the spring system and method of controlling the rate of extension and retraction of a spring rod of a spring system as defined in dependent claims 85 and 86 on Appeal.

As set forth above in Section A(2), Salice in view of Johnston and in view of Fitzlaff does not make obvious all of the limitations and the combination of limitations of independent claims 1 and 49. For at least this reason, dependent claims 85 and 86 are also not obvious in view of the cited art of record. As such, Appellant requests that the obviousness rejection under 35 U.S.C. § 103(a) of dependent claims 85 and 86 be withdrawn, and that dependent claims 85 and 86 be indicated as allowable over the cited art of record.

Appellant also submits that dependent claims 85 and 86 include limitations that are not taught or disclosed in Salice, Johnston, Fitzlaff, Miura and/or Geyer. Dependent claims 85 and 86 include the limitation that at least one of the first and second compression springs is in a partially compressed state when the spring rod member is in the fully extended position. As discussed above in Section C of the Appeal Brief, Geyer has no teachings regarding such limitation. As with dependent claims 3, 73 and 84 discussed above, the examiner did not comment on the limitations of claims 85 and 86. The examiner's free length argument on pages 9 and 11 of the Final Office Action does not make obvious the limitations of dependent claims 85 and 86.

Appellant submits that Salice, Johnston, Fitzlaff, Miura and Geyer, individually or in combination with one another does not disclose or teach the limitations of dependent claims 85 and 86. For this additional reason, dependent claims 85 and 86 are not obvious in view of the cited art of record. As such, the obviousness rejection under 35 U.S.C. § 103(a) of dependent claims 85 and 86 should be withdrawn, and dependent claims 85 and 86 should be indicated as allowable over the cited art of record.

H. SUMMARY

In conclusion, the claims on appeal pertain to a novel spring system and novel method of using the spring system. Appellant submits that for at least the reasons set forth above, none of the pending claims in the above-identified patent application are obvious in view of the cited art of record. Appellant respectfully requests that the rejection of the claims be withdrawn and that such claims be indicated as allowable.

VIII. CLAIMS APPENDIX

1. (Rejected) A spring system comprising a housing having an axis, an internal chamber, and axially opposite bottom and top ends; a rod member coaxial with said axis and positioned within said internal chamber and having an inner end in said housing and an outer end axially outwardly of said top end of said housing; a guide member on said inner end of said rod member supporting said rod member for reciprocation axially of said housing between retracted and extended positions relative thereto; first and second compression springs each extending between said guide member and the bottom end of said housing; and top and bottom bushings, said top bushing positioned at least closely adjacent to said top end of said housing and said bottom bushing positioned at least closely adjacent to said bottom end of said housing; said top bushing including an opening to enable a portion of said rod member to pass therethrough and to support said rod member for reciprocation axially of said housing between retracted and extended positions relative thereto, said top bushing including a sealing arrangement positioned at least closely adjacent to a bottom of said top bushing to inhibit fluid from entering into and escaping from said internal chamber between said top bushing and said top end of said housing, said first and second springs being coaxial with one another and with said axis, at least one of said springs at least partially applying a force on said guide member as said rod member moves between fully retracted and fully extended positions, said guide member designed to move into engagement with or move to a position closely adjacent to said top bushing when said rod member moves to a fully extended position, at least one of said springs having a free length that is at least a majority length of said internal chamber, both of said springs contacting said bottom bushing when said rod member in said fully retracted position, said guide member dividing said internal chamber into at least two sub-chambers, said guide member including a first

passageway that at least partially regulates fluid flow between said at least two sub-chambers during said reciprocation of said rod member, said first passageway fully spaced from an outer edge of said guide member and passing fully through said guide member, said outer end of said rod member including a mounting element.

2. (Rejected) The spring system as defined in claim 1, wherein the direction of winding of said first compression spring is opposite to the direction of winding of said second compression spring.

3. (Rejected) The spring system as defined in claim 1, wherein the free length of said first compression spring is different from the free length of said second compression spring.

4. (Rejected) The spring system as defined in claim 2, wherein the free length of said first compression spring is different from the free length of said second compression spring.

5. (Rejected) The spring system as defined in claim 1, wherein the outside diameter of said first compression spring is less than the outside diameter of said second compression spring.

6. (Rejected) The spring system as defined in claim 2, wherein the outside diameter of said first compression spring is less than the outside diameter of said second compression spring.

7. (Rejected) The spring system as defined in claim 4, wherein the outside diameter of said first compression spring is less than the outside diameter of said second compression spring.

8. (Rejected) The spring system as defined in claim 2, wherein the wire diameter of said first compression spring is less than the wire diameter of said second compression spring.

9. (Rejected) The spring system as defined in claim 7, wherein the wire diameter of said first compression spring is less than the wire diameter of said second compression spring.

10. (Rejected) The spring system as defined in claim 1, wherein the wire diameter of said first compression spring is less than the wire diameter of said second compression spring.

11. (Rejected) The spring system as defined in claim 1, wherein the outside diameter and wire diameter of said first compression spring are respectively less than the outside diameter and wire diameter of said second compression spring.

12. (Rejected) The spring system as defined in claim 2, wherein the outside diameter and wire diameter of said first compression spring are respectively less than the outside diameter and wire diameter of said second compression spring.

13. (Rejected) The spring system as defined in claim 10, wherein the outside diameter and wire diameter of said first compression spring are respectively less than the outside diameter and

wire diameter of said second compression spring.

14. (Rejected) The spring system as defined in claim 1, wherein said first passageway in said guide member includes a one way valve arrangement.

15. (Rejected) The spring system as defined in claim 2, wherein said first passageway in said guide member includes a one way valve arrangement.

16. (Rejected) The spring system as defined in claim 12, wherein said first passageway in said guide member includes a one way valve arrangement.

17. (Rejected) The spring system as defined in claim 1, wherein said guide member includes a second passageway, said second passageway fully spaced from an outer edge of said guide member and spaced from said first passageway, said second passageway not in fluid communication with said first passageway.

18. (Rejected) The spring system as defined in claim 14, wherein said guide member includes a second passageway, said second passageway fully spaced from an outer edge of said guide member and spaced from said first passageway, said second passageway not in fluid communication with said first passageway.

19. (Rejected) The spring system as defined in claim 2, wherein said guide member includes a second passageway, said second passageway fully spaced from an outer edge of said guide member and spaced from said first passageway, said second passageway not in fluid communication with said first passageway.

20. (Rejected) The spring system as defined in claim 15, wherein said guide member includes a second passageway, said second passageway fully spaced from an outer edge of said guide member and spaced from said first passageway, said second passageway not in fluid communication with said first passageway.

21. (Rejected) The spring system as defined in claim 16, wherein said guide member includes a second passageway, said second passageway fully spaced from an outer edge of said guide member and spaced from said first passageway, said second passageway not in fluid communication with said first passageway.

22. (Rejected) The spring system as defined in claim 17, wherein said second passageway has a maximum fluid flow rate that is less than a maximum fluid flow rate of said first passageway.

23. (Rejected) The spring system as defined in claim 18, wherein said second passageway has a maximum fluid flow rate that is less than a maximum fluid flow rate of said first passageway.

24. (Rejected) The spring system as defined in claim 19, wherein said second passageway has a maximum fluid flow rate that is less than a maximum fluid flow rate of said first passageway.

25. (Rejected) The spring system as defined in claim 20, wherein said second passageway has a maximum fluid flow rate that is less than a maximum fluid flow rate of said first passageway.

26. (Rejected) The spring system as defined in claim 21, wherein said second passageway has a maximum fluid flow rate that is less than a maximum fluid flow rate of said first passageway.

27. (Rejected) The spring system as defined in claim 1, wherein said bottom end is sealed to substantially prevent fluid flow through said bottom end.

28. (Rejected) The spring system as defined in claim 25, wherein said bottom end is sealed to substantially prevent fluid flow through said bottom end.

29. (Rejected) The spring system as defined in claim 1, wherein said top end is sealed to substantially prevent fluid flow through said top end.

30. (Rejected) The spring system as defined in claim 25, wherein said top end is sealed to substantially prevent fluid flow through said top end.

31. (Rejected) The spring system as defined in claim 27, wherein said top end is sealed to substantially prevent fluid flow through said top end.

32. (Rejected) The spring system as defined in claim 28, wherein said top end is sealed to substantially prevent fluid flow through said top end.

33. (Withdrawn) The spring system as defined in claim 1, wherein said top end includes a passageway to allow for a controlled rate of fluid flow to exit said internal chamber as said rod member moves to said extended position.

34. (Withdrawn) The spring system as defined in claim 25, wherein said top end includes a passageway to allow for a controlled rate of fluid flow to exit said internal chamber as said rod member moves to said extended position.

35. (Withdrawn) The spring system as defined in claim 27, wherein said top end includes a passageway to allow for a controlled rate of fluid flow to exit said internal chamber as said rod member moves to said extended position.

36. (Withdrawn) The spring system as defined in claim 28, wherein said top end includes a passageway to allow for a controlled rate of fluid flow to exit said internal chamber as said rod member moves to said extended position.

37. (Withdrawn) The spring system as defined in claim 33, wherein said passageway in said top end is spaced from said rod member.

38. (Withdrawn) The spring system as defined in claim 36, wherein said passageway in said top end is spaced from said rod member.

39. (Withdrawn) The spring system as defined in claim 33, wherein said passageway in said top end is adjacent to said rod member.

40. (Withdrawn) The spring system as defined in claim 36, wherein said passageway in said top end is adjacent to said rod member.

Claim 41 (Canceled).

42. (Withdrawn) The spring system as defined in claim 1, including a guide rod that extends from said guide member toward said bottom end coaxial with said axis and said first compression spring surrounds said guide rod.

43. (Withdrawn) The spring system as defined in claim 1, including at least a third compression spring, said third compression spring extending between said guide member and said bottom end of said housing coaxial with said axis.

44. (Withdrawn) The spring system as defined in claim 1, including at least a third compression spring, said third compression spring extending between said guide member and said top end of said housing coaxial with said axis.

45. (Withdrawn) The spring system as defined in 44, wherein a direction of winding of said first and third compression springs is opposite to a direction of winding of said second compression spring.

46. (Withdrawn) The spring system as defined in claim 44, wherein a length of said first and third compression springs are the same.

47. (Withdrawn) The spring system as defined in claim 44, wherein outside diameters of said first and third compression springs are less than an outside diameter of said second compression spring.

48. (Withdrawn) The spring system as defined in claim 44, wherein an outside diameter and wire diameter of said first and third compression springs is less respectively than an outside diameter and wire diameter of said second compression spring.

49. (Rejected) A method of controlling the rate of extension and retraction of a spring rod of a spring system comprising:

providing a housing having a longitudinal axis, an internal chamber, and axially opposite

bottom and top ends, said spring rod coaxial with said axis and positioned within said internal chamber, said spring rod having an inner end in said housing and an outer end axially outwardly of said top end of said housing, said outer end of said spring rod including a mounting element;

providing a guide member positioned on said inner end of said spring rod, said guide member supporting said spring rod for reciprocation axially in said housing between a fully retracted and a fully extended position relative thereto, said guide member dividing said internal chamber into at least upper and lower sub-chambers;

providing first and second compression springs each extending between said guide member and the bottom opposite end of said housing, said first and second springs being coaxial with one another and with said axis, at least one of said springs at least partially applying a force on said guide member as said rod member moves between fully retracted and fully extended positions, at least one of said springs having a free length that is at least a majority length of said internal chamber, both of said springs designed to contact said bottom bushing when said rod member in said fully retracted position;

providing top and bottom bushings, said top bushing positioned at least closely adjacent to said top end of said housing and said bottom bushing positioned at least closely adjacent to said bottom end of said housing; said top bushing including an opening to enable a portion of said rod member to pass therethrough and to support said rod member for reciprocation axially of said housing between retracted and extended positions relative thereto, said top bushing including a sealing arrangement positioned at least closely adjacent to a bottom of said top bushing to inhibit fluid from entering into and escaping from said internal chamber between said top bushing and said top end of said housing, said guide member designed to move into engagement with or move to a

position closely adjacent to said top bushing when said rod member moves to a fully extended position;

at least partially controlling the rate of retraction of said spring rod by selecting the spring rate of at least one of said compression springs; and,

at least partially controlling the rate of extension of said spring rod by at least partially regulating a fluid flow rate between said sub-chambers, said step of at least partially controlling the rate of extension includes providing a first fluid passageway that passes fully through said guide member, said first passageway fully spaced from an outer edge of said guide member.

50. (Rejected) The method as defined in claim 49, wherein said first passageway at least partially regulates fluid flow between said upper and lower sub-chambers during said extension of said spring rod.

51. (Rejected) The method as defined in claim 50, wherein said first passageway includes a one way valve arrangement.

52. (Rejected) The method as defined in claim 51, wherein said one way valve substantially prevents fluid flow from said upper sub-chamber to said lower sub-chamber during said extension of said spring rod.

53. (Rejected) The method as defined in claim 50, wherein said guide member includes a second passageway, said second passageway fully spaced from an outer edge of said guide member

and spaced from said first passageway, said second passageway not in fluid communication with said first passageway.

54. (Rejected) The method as defined in claim 52, wherein said guide member includes a second passageway, said second passageway fully spaced from an outer edge of said guide member and spaced from said first passageway, said second passageway not in fluid communication with said first passageway.

55. (Rejected) The method as defined in claim 53, wherein said second passageway has a maximum fluid flow rate that is less than a maximum fluid flow rate of said first passageway.

56. (Rejected) The method as defined in claim 54, wherein said second passageway has a maximum fluid flow rate that is less than a maximum fluid flow rate of said first passageway.

57. (Rejected) The method as defined in claim 49, wherein said bottom end of said housing substantially prevents fluid flow through said bottom end to an exterior of said housing.

58. (Rejected) The method as defined in claim 53, wherein said bottom end of said housing substantially prevents fluid flow through said bottom end to an exterior of said housing.

59. (Rejected) The method as defined in claim 56, wherein said bottom end of said housing substantially prevents fluid flow through said bottom end to an exterior of said housing.

60. (Rejected) The method as defined in claim 49, wherein said top end of said housing substantially prevents fluid flow through said top end to an exterior of said housing.

61. (Rejected) The method as defined in claim 58, wherein said top end of said housing substantially prevents fluid flow through said top end to an exterior of said housing.

62. (Rejected) The method as defined in claim 59, wherein said top end of said housing substantially prevents fluid flow through said top end to an exterior of said housing.

63. (Withdrawn) The method as defined in claim 49, wherein said top end includes a top passageway to allow a controlled rate of fluid flow to exit said upper sub-chamber as said spring member moves to said fully extended position.

64. (Withdrawn) The method as defined in claim 58, wherein said top end includes a top passageway to allow a controlled rate of fluid flow to exit said upper sub-chamber as said spring member moves to said fully extended position.

65. (Withdrawn) The method as defined in claim 59, wherein said top end includes a top passageway to allow a controlled rate of fluid flow to exit said upper sub-chamber as said spring member moves to said fully extended position.

66. (Withdrawn) The method as defined in claim 63, wherein said top passageway is spaced from said spring rod.

67. (Withdrawn) The method as defined in claim 64, wherein said top passageway is spaced from said spring rod.

68. (Withdrawn) The method as defined in claim 65, wherein said top passageway is spaced from said spring rod.

69. (Withdrawn) The method as defined in claim 63, wherein said top passageway is adjacent to said spring rod.

70. (Withdrawn) The method as defined in claim 64, wherein said top passageway is adjacent to said spring rod.

71. (Withdrawn) The method as defined in claim 65, wherein said top passageway is adjacent to said spring rod.

72. (Rejected) The method defined in claim 49, wherein a direction of winding of said first compression spring is opposite to a direction of winding of said second compression spring.

73. (Rejected) The method as defined in claim 49, wherein a free length of said first compression spring is different from a free length of said second compression spring.

74. (Rejected) The method as defined in claim 49, wherein an outside diameter of said first compression spring is less than an outside diameter of said second compression spring.

75. (Rejected) The method as defined in claim 49, wherein a wire diameter of said first compression spring is less than a wire diameter of said second compression spring.

76. (Rejected) The method as defined in claim 49, including a bushing at said top end of said housing to support said rod for reciprocation axially of said housing between fully retracted and fully extended positions relative thereto.

77. (Withdrawn) The method as defined in claim 49, including a guide rod that extends from said guide member toward said bottom end coaxial with said axis and said first compression spring surrounds said guide rod.

78. (Withdrawn) The method as defined in claim 49, including at least a third compression spring, said third compression spring extending between said guide member and said bottom end of said housing coaxial with said axis.

79. (Withdrawn) The method as defined in claim 49, including at least a third compression spring, said third compression spring extending between said guide member and said top end of said housing coaxial with said axis.

80. (Withdrawn) The method as defined in claim 79, wherein a direction of winding of said first and third compression springs is opposite to a direction of winding of said second compression spring.

81. (Withdrawn) The method as defined in claim 79, wherein a length of said first and third compression springs are the same.

82. (Withdrawn) The method as defined in claim 79, wherein an outside diameter of said first and third compression springs are less than an outside diameter of said second compression spring.

83. (Withdrawn) The method as defined in claim 79, wherein an outside diameter and wire diameter of said first and third compression springs is less respectively than an outside diameter and wire diameters of said second compression spring.

84. (Rejected) The method as defined in claim 49, wherein at least one of said first and second compression springs in a partially compressed state when said spring rod member is in said fully extended position.

85. (Rejected) The method as defined in claim 61, wherein at least one of said first and second compression springs in a partially compressed state when said spring rod member is in said fully extended position.

86. (Rejected) The method as defined in claim 62, wherein at least one of said first and second compression springs in a partially compressed state when said spring rod member is in said fully extended position.

87. (Rejected) The spring system as defined in claim 18, wherein said second passageway allows for fluid flow in both directions.

88. (Rejected) The spring system as defined in claim 20, wherein said second passageway allows for fluid flow in both directions.

89. (Rejected) The spring system as defined in claim 21, wherein said second passageway allows for fluid flow in both directions.

90. (Rejected) The spring system as defined in claim 23, wherein said second passageway allows for fluid flow in both directions.

91. (Rejected) The spring system as defined in claim 26, wherein said second passageway allows for fluid flow in both directions.

92. (Rejected) The spring system as defined in claim 32, wherein said second passageway allows for fluid flow in both directions.

93. (Rejected) The method as defined in claim 53, wherein said second passageway allows for fluid flow in both directions.

94. (Rejected) The method as defined in claim 54, wherein said second passageway allows for fluid flow in both directions.

95. (Rejected) The method as defined in claim 55, wherein said second passageway allows for fluid flow in both directions.

96. (Rejected) The method as defined in claim 58, wherein said second passageway allows for fluid flow in both directions.

IX. EVIDENCE APPENDIX

The evidence of record in this appeal is Salice (US 6,615,450), Johnston (US 5,360,123), Fitzlaff (US 5,728,174), Johnsen (US 5,551,674), Geyer (US 4,148,469), and Miura et al. (US 6,315,093). Salice, Fitzlaff, Johnsen, Geyer and Miura were cited by the examiner during the prosecution of the patent application. Appellant cited Johnston in an Information Disclosure Statement dated July 24, 2006 during the prosecution of the patent application.

X. RELATED PROCEEDINGS APPENDIX

There are no related proceedings.

Respectfully submitted,
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